

REMARKS

In the present Office Action, dated July 11, 2006, the previous rejections were withdrawn and new grounds of rejection were applied to all Claims 1-15 and 17-20 now in the application. The claims were all rejected as unpatentable over U.S. 6,960,847 Suzuki et al. in view of U.S. 5,434,549 Hirabayashi et al.

In response, the claims have been amended to more clearly distinguish the present claims from the cited prior art. Clarifying amendments have also been made to the specification, paragraphs 7 and 14, which are supported by the drawing figures, particularly FIG. 3, and the amended paragraphs themselves. Reconsideration of the application and amended Claims 1-15 and 17-20 are respectfully requested.

Amended Claim 1 now recites that the armature includes "at least two axially spaced permanent magnets mounted on an exterior of an axially extending steel magnetic core." Neither Suzuki nor Hirabayashi shows such an arrangement. The radially magnetized magnets 32, 33 of Suzuki are mounted to the ends of a movable magnetic yoke, instead of on the exterior of a magnetic core which carries the flux lines between the magnets as shown in applicant's FIG. 3. This arrangement is effective in more evenly distributing the magnetic flux axially along the magnetic coils and the permanent magnets.

Claim 2 now recites that "the core is a tube which supports the magnets over approximately their full axial lengths", which further defines a preferable arrangement.

Claims 3-12 are now amended to depend from Claim 2 to further distinguish their structures.

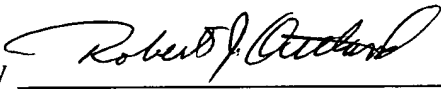
Claim 13 now recites that the armature includes "at least two axially spaced permanent magnets fixedly mounted on an exterior of an axially extending magnetic tube". Neither of the references shows such an arrangement, nor do they provide a basis for forming such a combination.

Claims 14, 15 and 17-20 remain dependent upon Claim 13. Claim 20 now specifies that "the magnetic tube supports the magnets over approximately their full axial lengths." This preferred arrangement as illustrated in FIG. 3 provides an extended flux path through the coils and the permanent magnets as outlined, for example, in paragraph 16 of the specification.

For all the foregoing reasons, amended Claims 1-15 and 17-20 are believed to clearly distinguish non-obvious patentable features of the present invention from the teachings of the prior art. Reconsideration and allowance of the claims as amended is accordingly requested.

This amendment is believed to be fully responsive to the issues raised in the present Office Action and to place this application in condition for allowance. Favorable action is requested.

Respectfully submitted,

By 
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